FACILITY STATUS CHANGE FORM
(for DOE/RL-2010-34 Facilities)

ate Submitted:	Area:	Control #:
April 1, 2014	100-N	D4-100N-0059
Originator:	**Facility ID:**	
Clay McCurley	181N Cable Float Barriers	
Phone:	**Action Memorandum:**	
942-8928	General Hanford Site Decommissioning Activities	

This form documents agreement among the parties listed below on the status of the facility D&D operations and the disposition of underlying soil in accordance with the applicable regulatory decision documents.

Section 1: Facility Status

☒ All removal actions require by action memo complete.

☐ Removal actions required by actions memo partially complete, remaining operations deferred.

Description of Completed Activities and Current Conditions:
Decontamination and Decommissioning: No hazardous materials were present on rebar reinforced concrete cable float barriers prior to demolition. A review of past uses of the barriers indicated chemical and/or radiological contamination highly unlikely. Visual examination of the barriers identified no staining and pre-demolition radiological scoping surveys identified no contamination.

Demolition: The locations of the 181N cable float barriers in the 100-N Area were documented using global position system (GPS) prior to performing demolition activities. The barriers were then saw cut into smaller blocks in place from January to March 2014. The blocks were lifted, transported, and placed as fill material, approximately 20 feet below grade, in the former 182N High Lift Pumphouse. Water and pulverized concrete cuttings were captured throughout the process, contained in steel 55 gallon drums, solidified on site, and disposed of at the ERDF.

No post-demolition GPS surveys were performed since there were no changes in grade where the barriers had been. No post-demolition radiological surveys were performed since the barriers had no radiological contamination.

Description of Deferral (as applicable):
N/A

Section 2: Underlying Soil Status

☒ No waste site(s) present. No additional actions anticipated.

☐ Documented waste site(s) present. Cleanup and closeout to be addressed under Record of Decision.

☐ Potential waste site discovered during removal action. Waste site identification number <to be> assigned.

Cleanup and closeout to be addressed under Record of Decision.

Description of Current/As-Left Conditions:
Areas where the cable float barriers had been were covered with rip rap and contoured consistent with the surrounding terrain.

Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):
N/A

Section 3: List of Attachments

1. Facility Information
2. Photographs of 181N Cable Float Barriers
3. No PTE for 181-N Cable Float Barriers

FACILITY STATUS CHANGE FORM
(for DOE/RL-2010-34 Facilities)

4. 181N Cable Float Barriers Pre-Demolition GPS Survey
5. Visual Inspection of 181N Cable Float Barrier Areas

Rudy Guercia

DOE-RL (Lead Agency)

4/1/2014

Date

DISTRIBUTION:

DOE: Rudy Guercia, A3-04
Document Control, H4-11
Administrative Record, H6-08 (100-NR-1 OU)
SIS Coordinator: Benjamin Cowan, H4-22
D4 EPL: Clay McCurley, L4-45
Sample Design/Cleanup Verification:Theresa Howell, H4-23
FR Engineering: Rich Carlson, H4-22
FR EPL: Dan Saueressig, N3-30

Facility Information

Introduction

This document provides information regarding the history, characterization, and final status at the completion of deactivation, decontamination, decommissioning and demolition (D4) activities of the 181N Cable Float Barriers located in the 100-N Area as shown in Figure 1 (Attachment 2).

Facility Description

The 181N cable float barriers, shown in Figure 2 (Attachment 2), were solid concrete blocks measuring approximately 16-ft wide, 16-ft long, and 8-ft high, and reinforced with #5 rebar. A ¾-in aircraft steel cable, threaded through foam-filled fishing floats for flotation, was secured between the barriers. The cable served as a safety barrier for the 181N River Pumphouse.

Facility History

The 181-N cable float barriers, shown in Figure 2 (Attachment 2), were constructed in the early 1980s at grade on man-made points upstream and downstream of the inlet to the 181-N River Pumphouse. The floating cable, secured between the barriers, was maintained in service until December 2010 when it was removed to facilitate the demolition of the 100-N river structures (181-N, 181-NE and 1908-NE) and eventually loaded out to the ERDF.

The barriers remained untouched until late 2013 when they were visually inspected for stains/ anomalies and surveyed for radiological contamination. The results identified no chemical or radiological contamination. Attachment 3 documents these surveys and DOE's concurrence that the barriers had no potential to emit radionuclides during removal activities. A global positioning survey of the barriers was performed to document their locations. A copy of this survey is provided in Attachment 4.

Removal activities began in January 2014 when rip rap was cleared to provide a demolition crew access to set up and operate a diamond wire saw that cut them into smaller blocks that could be lifted. Figure 3 (Attachment 2) provides an aerial photograph of the south cable float barrier being cut. Six cuts through both barriers created 40 smaller blocks that were retrieved with an excavator and moved in mid-March to the basement of the 182N High Lift Pumphouse as shown in Figure 4 (Attachment 2). The water that had been used to facilitate the cutting process was collected in 55-gallon drums, solidified, and disposed of at the ERDF.

The areas where the barriers had been located were visually inspected for stains and anomalies. A copy of the inspection report is provided in Attachment 5. None were observed so the rip rap that had been removed to facilitate demolition was returned and spread to blend the appearance of the points consistent with the surrounding terrain as shown in Figure 4 (Attachment 2). Since the barriers had no radiological contamination, no post demolition surveys were performed using the global positioning environmental radiological surveyor (GPERS). No post-demolition global positioning system (GPS) surveys were performed since no below-grade excavations were required for removal.

Radiological Scoping and IH Baseline Surveys

The 181N Cable Float Barriers were never posted for radiological conditions. Based on research of past uses, radiological contamination was not expected and scoping surveys, documented in Attachment 3, identified no contamination.

For the IH baseline surveys of the barriers, an Industrial Hygiene Exposure Assessment (IHEA-181N-13-001, Rev. 3) addressed total dust (crystalline silica), heat stress and noise exposures. The barriers were beryllium free since they were not on the Hanford Site Beryllium List and there were no known pathways or sources for the contaminant.

Table 1 summarizes the radiological surveys performed. Pre and post demolition surveys using the Global Positioning Environmental Radiological Surveyor (GPERS) were not performed since the barriers were not radiologically contaminated. There were no contaminants of concern.

Table 1: Summary of Characterization Surveys at 151D

Type	Quantity	Method Detection Limits	Results
Radiological Scoping Surveys	2 surveys	Beta-gamma: 1,000 removable/ 5,000 fixed[a] Alpha: 20 removable/ 500 fixed[a]	No contamination identified (see Attachment 3).

[a] – dpm/100 cm^2

Attachment 2

Photographs of the 181N Cable Float Barriers (2 pages)

Figure 1. 100-N Area in March 2007

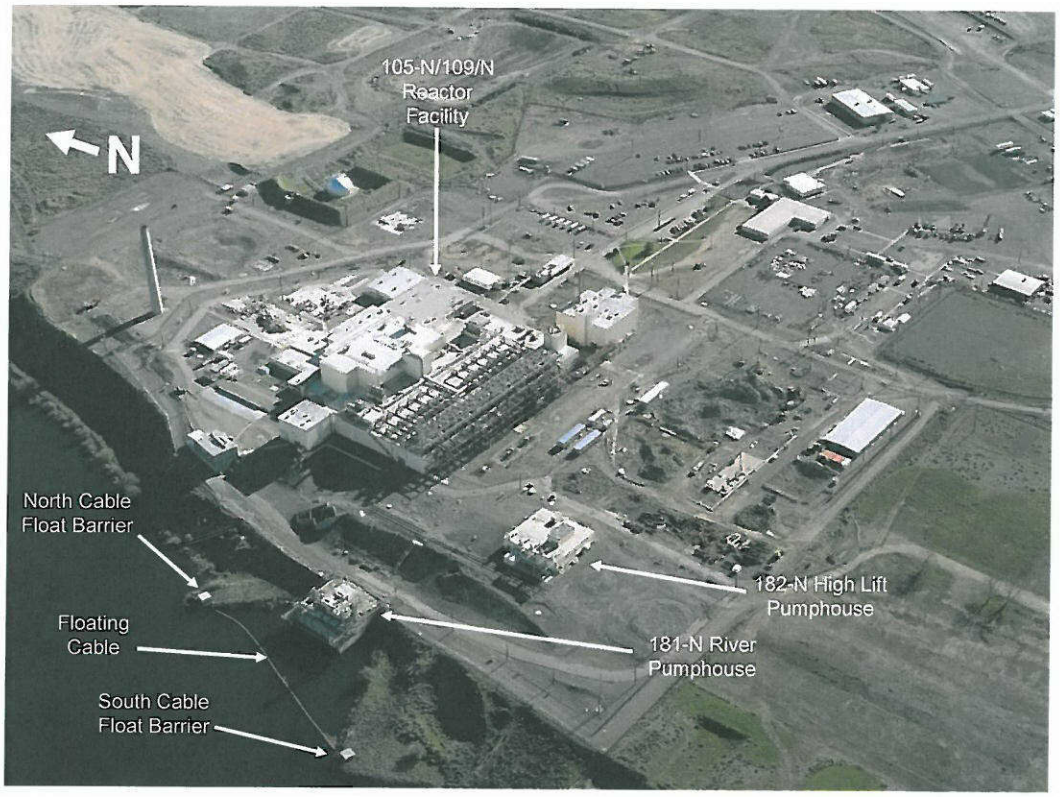


Figure 2. 181N Cable Float Barriers in October 2009

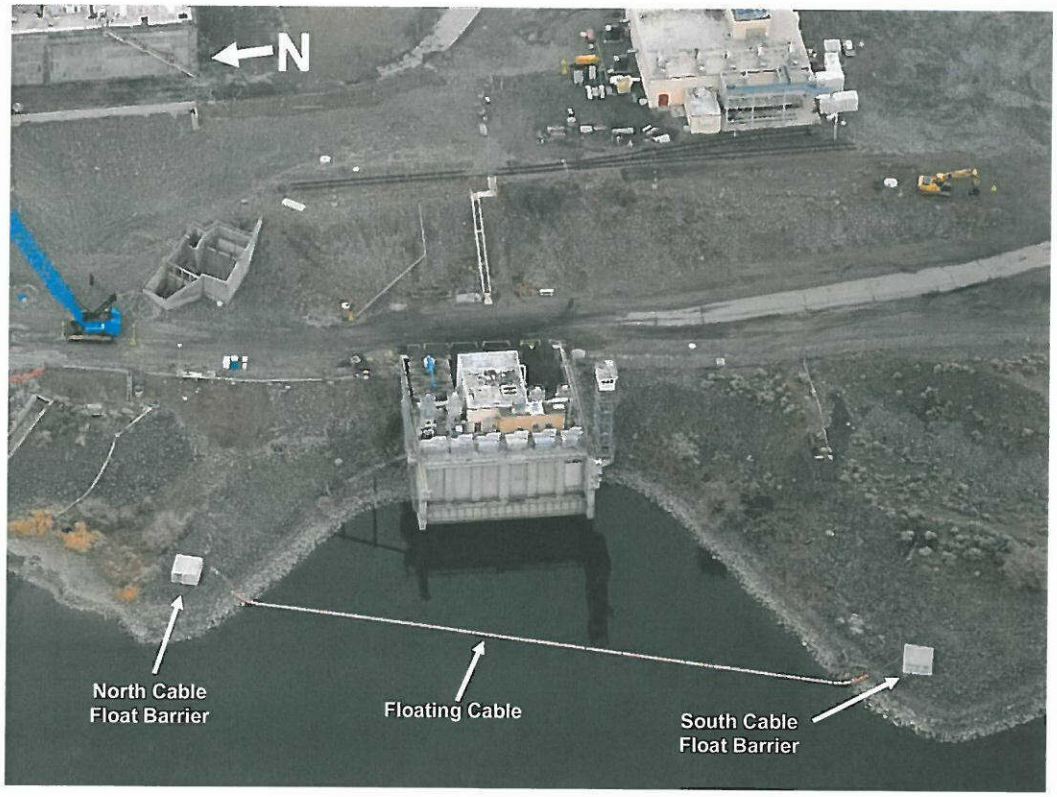


Figure 3. 181N Cable Float Barriers Being Wire Saw Cut in January 2014

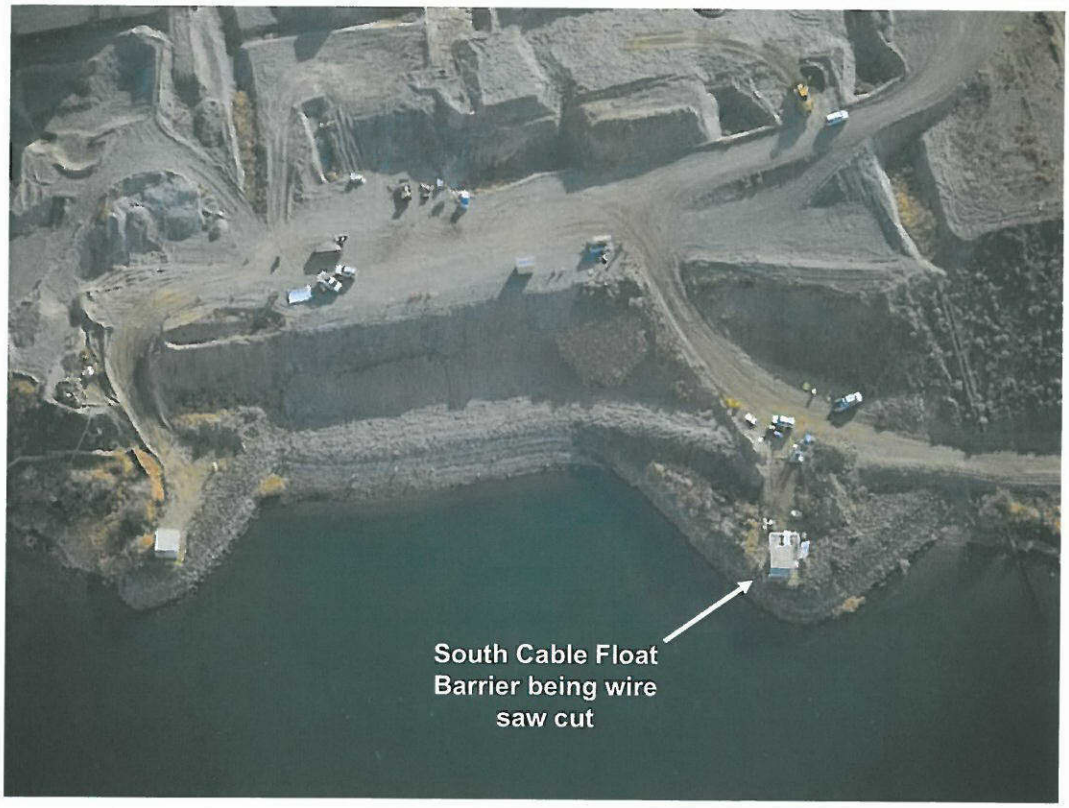
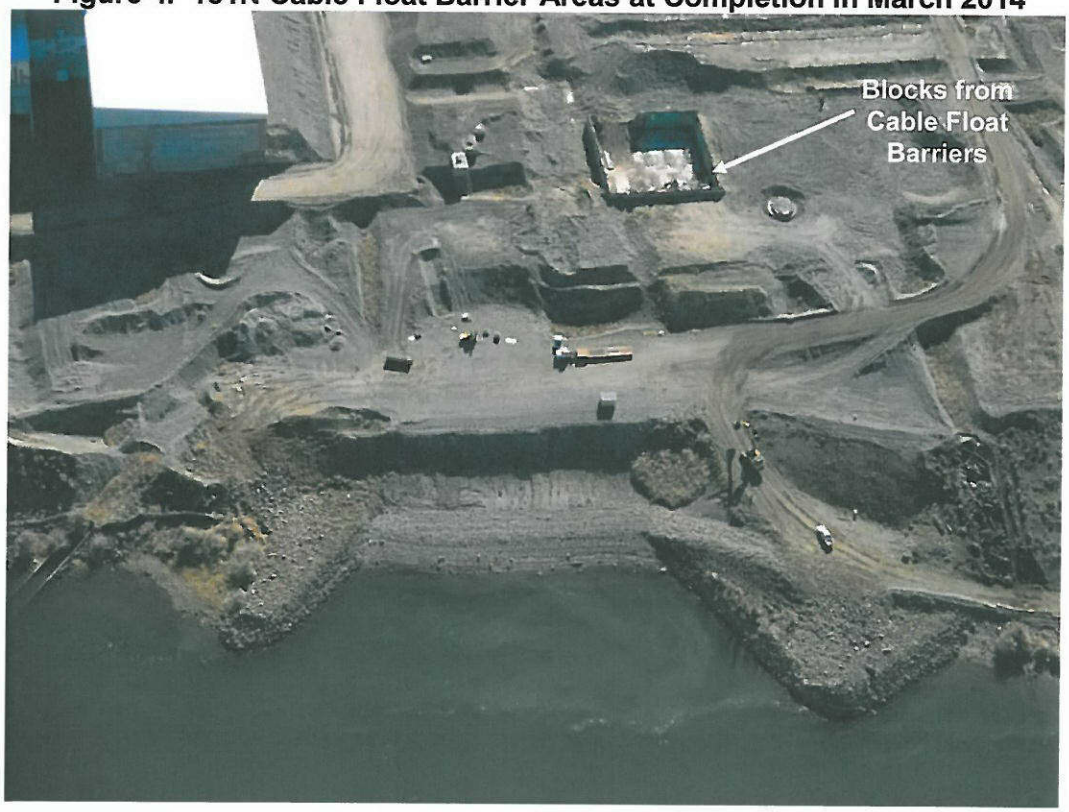


Figure 4. 181N Cable Float Barrier Areas at Completion in March 2014



Attachment 3

No PTE for the 181N Cable Float Barriers (8 pages)

173578

^WCH Document Control

From: Saueressig, Daniel G
Sent: Wednesday, October 30, 2013 10:34 AM
To: ^WCH Document Control
Cc: McCurley, Clay D
Subject: NO PTE FOR THE 181-N CABLE FLOAT BARRIERS

Attachments: SPDQ0746413102808090.pdf; No PTE 181N.doc

Please provide a chron number (and include both attachments). This emails documents a regulatory approval.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Guercia, Rudolph F (Rudy) [mailto:rudolph.guercia@rl.doe.gov]
Sent: Monday, October 28, 2013 9:05 AM
To: Saueressig, Daniel G; Douglas, L M (Michael); Allen, Mark E
Cc: McCurley, Clay D
Subject: FW: NO PTE FOR THE 181-N CABLE FLOAT BARRIERS

SPDQ0746413102808090.pdf (1 MB...

After reviewing the data provided on the subject blocks below, as well as reviewing the rad con material that I have attached above, RL concurs with the analysis that the subject facility does not have a radiological inventory to justify calculation of a PTE. RL believes that these blocks have no potential to emit either from activities related demolition, or removal.

Please chron and place in the project files

R. F. Guercia, Field Engineering
U.S. Dept. of Energy, Richland Operations Office
PH: (509) 376-5494
Fax: (509) 373-0726

From: Saueressig, Daniel G [mailto:dgsauere@wch-rcc.com]
Sent: Wednesday, October 23, 2013 7:11 AM
To: Guercia, Rudolph F (Rudy)
Cc: Allen, Mark E; McCurley, Clay D
Subject: NO PTE FOR THE 181-N CABLE FLOAT BARRIERS

In accordance with Section 4.3.2 of the Removal Action Work Plan for River Corridor General Decommissioning Activities attached is a facility history that establishes current conditions based on completed scoping surveys of the 181-N Cable Float Barriers. Concurrence from DOE as lead agency is requested that an emissions estimate is not required prior to

performing removal actions on these structures.

Please call if you have any questions.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

No PTE 181N.doc (2 MB)

No Potential to Emit – 181-N Cable Float Barriers

Facility Description:

The 181-N Cable Float Barriers are two 16 foot long by 16 foot wide by 8 foot high concrete blocks on the shoreline of the Columbia River that held a cable float barrier in front of the previously demolished 181-N River Pump House to prevent debris from interfering with intake operations.

Facility Location:

The 181-N Cable Float Barriers are located on the upstream and downstream Columbia River shoreline of the previously demolished 181-N River Pump House on the western edge of the 100-N Industrial Area.

Facility History:

The barriers were constructed in 1964 to connect a cable float in front of the 181-N River Pump House.

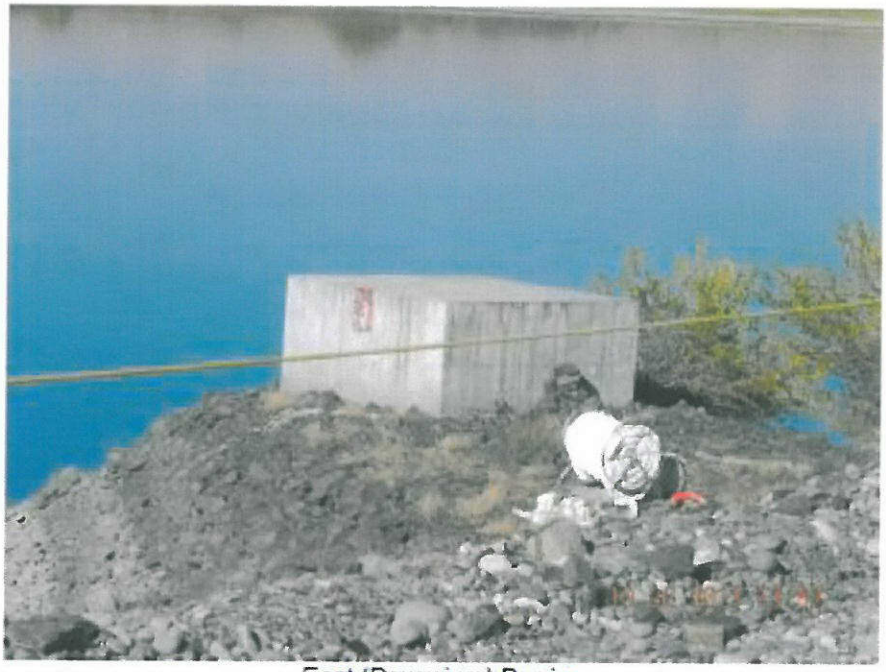
Radiological Contaminants of Concern:

WCH completed radiological surveys of the 181-N Cable Float Barriers on September 24, 2013. No contamination was identified.

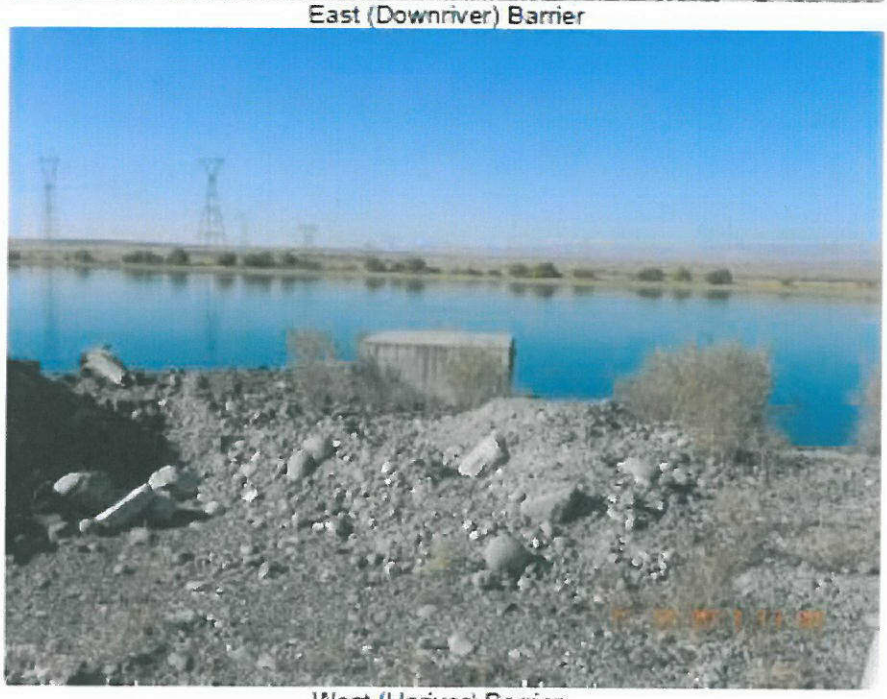
Chemical Contaminants of Concern:

There are no chemical contaminants of concern. The 181-N Cable Float Barriers will be size reduced using a wire saw and placed into the basement of the 182-N foundation which has been approved to remain in place and be backfilled.

181-N Cable Float Barriers



East (Downriver) Barrier



West (Upriver) Barrier.

No-PTE for 181-N Cable Float Barriers

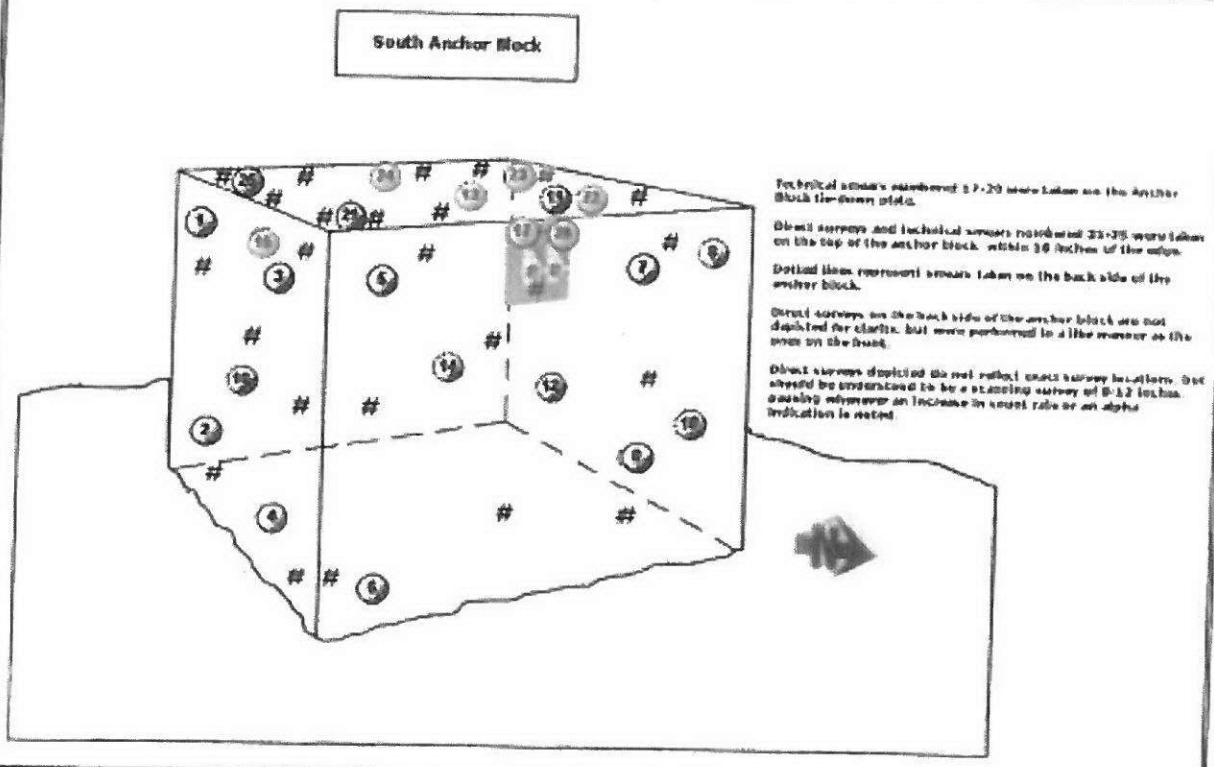
RADIOLOGICAL SURVEY RECORD

Page 1 of 2

Type of Survey			Survey #
☒ Work Progress ☐ Routine			RSR –100N-13-1058
RWP # / Rev. # NA	Date 09-24-2013	Time 1430	Location 100N

Description
South Anchor Block Characterization Survey at 100N

References: (e.g., SRTA, ASER, LASER, RSP, Work Package)
TA-10-SR-10/ Revision 01



CA Contamination Area	HCA High Contamination Area	RBA Radiological Buffer Area	ARA Airborne Radioactivity Area	SCA Skin Contamination Area	RMA Radioactive Materials Area	RA Radiation Area	HRA High Radiation Area	VHRA Very High Radiation Area	RCA Radiologically Controlled Area	SOP Step Off Pad
○ Technical Smear	# Direct	M Large Area Wipe	T Transferable	General Area Dose Rates (Uncorrected Meter Reading (mR/hr))	All radiation readings are γ dose rates in units of mR/hr unless otherwise indicated	Contact 30 cm	N Neutron (mRem/hr)	A Alpha Rem (mR/hr)	[AS] Air Sample Location	URMA Underground Radioactive Material Area

RCT Name/Signature/Date
GL Eppling/ 09-24-2013

RadCon Supervisor Name/Signature/Date
Mark Walde/MWald/ 9-26-13

RCT signature indicates portable instruments checked IAW RC-300.2.1

181N Cable Float Barriers

RADIOLOGICAL SURVEY RECORD

Survey #
RSR -100N-13-1058

Instruments

Model	ID #	Efficiency %		Cal Due Date	Model	ID #	Efficiency %		Cal Due Date
		α	βγ				α	βγ	
Ludlum 2360	SCLL8-0032	NA	NA	11-14-2013	NA	NA	NA	NA	NA
DP6BD	DTNE2-0098	21	10	11-14-2013	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Contamination Measurement Information[1]

Circled values indicate Removable β contamination in mrad/hr β

No.	Description of Item or Location	Removable (dpm/100 cm²)				Total (dpm/100 cm²)			
		α bkgd (cpm)	α Activity	β γ bkgd (cpm)	β γ Activity	α bkgd (cpm)	α Activity	β γ bkgd (cpm)	β γ Activity
ALL	Technical smears 1-25	3	< 20	462	< 1,000	NA	NA	NA	NA
ALL	Direct survey locations	NA	NA	NA	NA	3	< 500	462	< 5,000
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[1] Unless stated otherwise in the "References" section exempted β-γ (i.e. C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, Eu-155) contamination levels are < 10 times the β-γ contamination levels shown above

Corrected Dose Rate Calculations

Show all work. CF = 1 unless noted.

Location	Contact Readings		30 cm Readings	
	β (mrad/hr) (WO-WC) X CF = DR	γ (mR/hr) WC X CF = DR	β (mrad/hr) (WO-WC) X CF = DR	γ (mR/hr) WC X CF = DR
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA

181N Cable Float Barriers

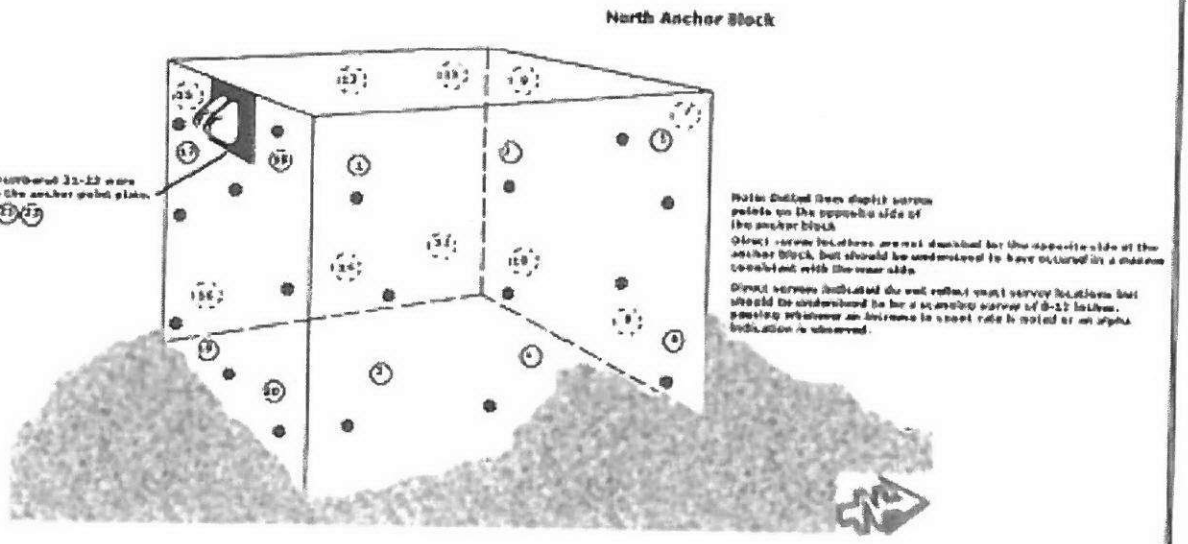
RADIOLOGICAL SURVEY RECORD

Type of Survey			Survey #
☒ Work Progress ☐ Routine			RSR –100N-13-1057
RWP # / Rev. #	Date	Time	Location
NA	09-24-2013	1100	100N

Description
North Anchor Block Characterization Survey at 100N

References: (e.g., SRTA, ASER, LASER, RSP, Work Package)
TA-10-SR-10/ Revision 01

Survey of North Anchor Block at 100N



CA Contamination Area	HCA High Contamination Area	RBA Radiological Buffer Area	ARA Airborne Radioactivity Area	SCA Skin Contamination Area	RMA Radioactive Materials Area	RA Radiation Area	HRA High Radiation Area	VHRA Very High Radiation Area	RCA Radiologically Controlled Area	SOF Step Off Pad
○ Technical Survey	# Direct	M Large Area Wipe	T Transferable	General Area Dose Rates Uncorrected Meter Reading (mR/hr)	All radiation readings are gamma dose rates in units of mR/hr unless otherwise indicated	Contact 30 cm	N Neutron (mRem/hr)	A Alpha Rem (dpm)	(AS) Air Sample Location	URMA Underground Radioactive Materials Area

RCT Name/Signature/Date	RadCon Supervisor Name/Signature/Date
GI. Eppling/ /09-24-2013	Mark Waldo/ 9.26.13

RCT signature indicates portable instruments checked IAW RC-300-2.1

181N Cable Float Barriers

RADIOLOGICAL SURVEY RECORD

Survey #
RSR -100N-13-1057

Instruments

Model	ID #	Efficiency %		Cal Due Date	Model	ID #	Efficiency %		Cal Due Date
		α	βγ				α	βγ	
Ludlum 2360	SCLL8-0032	NA	NA	11-14-2013	NA	NA	NA	NA	NA
DP6-BD	DTNE2-0098	21	10	11-14-2013	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Contamination Measurement Information[1]

Circled values indicate Removable β contamination in mrad/hr β

No.	Description of Item or Location	Removable (dpm/100 cm²)				Total (dpm/100 cm²)			
		α bkgd (cpm)	α Activity	β-γ bkgd (cpm)	β-γ Activity	α bkgd (cpm)	α Activity	β-γ bkgd (cpm)	β-γ Activity
ALL	Technical smears 1-23	2	< 20	475	< 1,000	NA	NA	NA	NA
ALL	Direct survey locations	NA	NA	NA	NA	2	< 500	475	< 5,000
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[1] Unless stated otherwise in the "References" section, exempted β-γ (i.e., C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, Eu-155) contamination levels are ≤ 10 times the β-γ contamination levels shown above.

Corrected Dose Rate Calculations

Show all work. CF = 1 unless noted.

Location	Contact Readings		30 cm Readings	
	β (mrad/hr) (WO-WC) X CF = DR	γ (mR/hr) WC X CF = DR	β (mrad/hr) (WO-WC) X CF = DR	γ (mR/hr) WC X CF = DR
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA

181N Cable Float Barriers

Attachment 4

181N Cable Float Barriers Pre-Demolition GPS Survey (3 pages)

Post Demo Survey Report for 181N River Block Anchors

Project : 100N_river_anchors

Job 1262

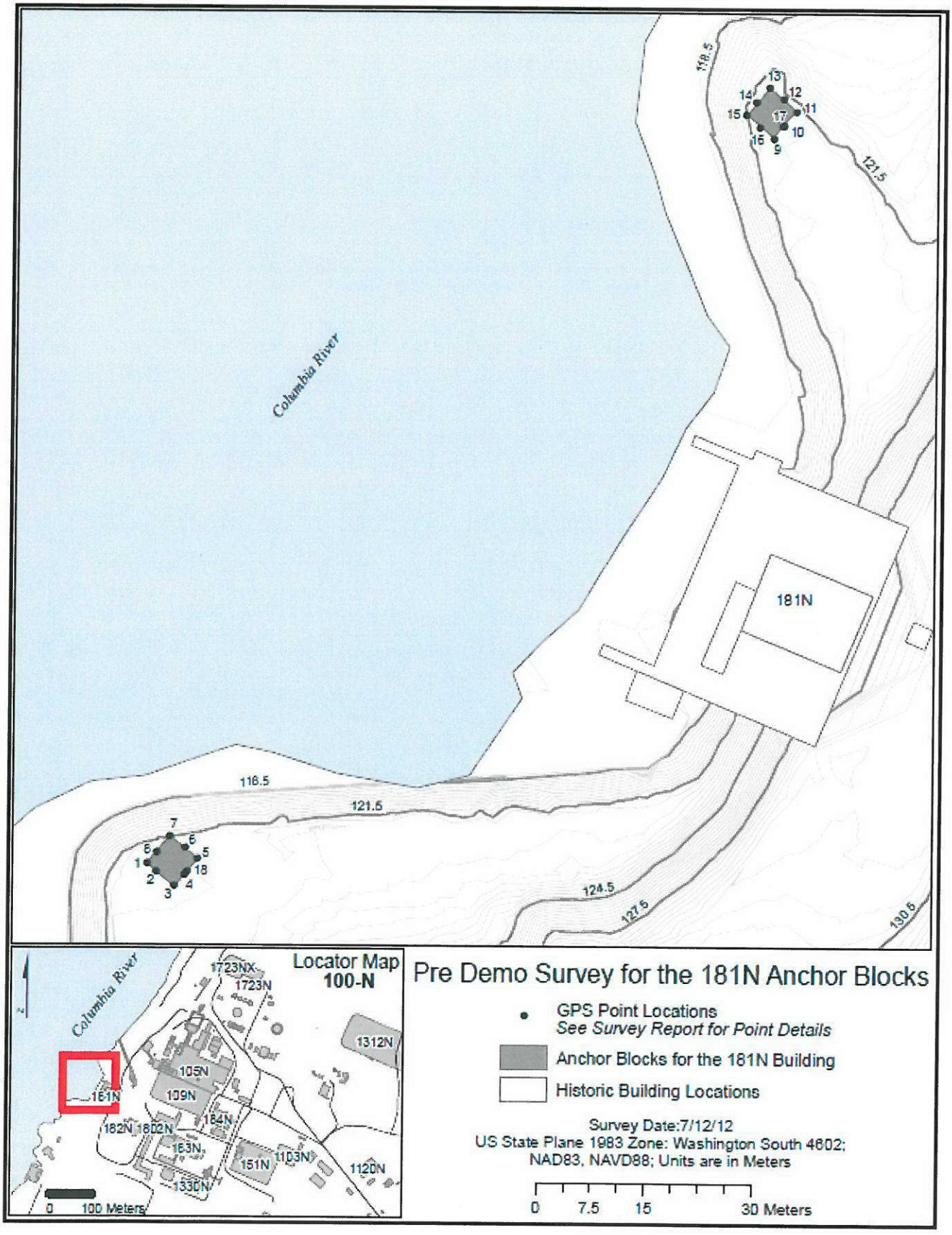
User name	maaye	**Date & Time**	2:21:06 PM 11/13/2013
Coordinate System	US State Plane 1983	**Zone**	Washington South 4602
Project Datum	(WGS 84)		
Vertical Datum	NAVD88	**Geoid Model**	Not selected
Coordinate Units	Meters		
Distance Units	Meters		
Height Units	Meters		

```
Survey Project Name:        100N River Anchors
Date:                       7/12/2012
Equipment:                  5800
Survey Purpose:             Map elevations around structures
Requested By:               Dan Bigby
Location:                   100N
Charge Code:
Field Surveyor:             Margo Aye
Survey Software Used:       Trimble Survey Controller, and  Geomatics
Office V.11
Survey Equipment Used:      5800
Control Monuments Used:     N-2
Survey Method:              RTK
Horizontal Precision:       .020m
Vertical Precision:         .050m
Fieldwork Start Date:       071212
Fieldwork Completion Date:  071212
Notes:                      Uneven basalt rocks surrounded anchors.
Points 8 and 16 are shot at the top of the structure.
```

Name	Northing	Easting	Elevation	Feature Code	Description
N-2	149644.179m	571811.158m	144.761m		
1	149430.245m	570920.960m	122.125m	base	
2	149429.186m	570922.195m	121.865m	base	
3	149427.189m	570924.748m	121.850m	base	
4	149429.253m	570926.503m	121.822m	base	
5	149431.019m	570927.918m	121.899m	base	
6	149432.592m	570926.177m	121.642m	base	
7	149434.193m	570924.063m	121.598m	base	
8	149431.912m	570922.246m	121.854m	base	
9	149531.530m	571007.222m	121.613m	base	
10	149533.199m	571008.610m	121.660m	base	
11	149535.289m	571010.309m	121.721m	base	
12	149536.966m	571008.516m	121.576m	base	
13	149538.595m	571006.527m	121.703m	base	

14	149536.555m	571004.686m	121.634m	base
15	149534.839m	571003.264m	121.565m	base
16	149533.022m	571005.219m	121.644m	base
17	149533.221m	571008.432m	123.843m	top-of-structure
18	149428.816m	570926.101m	123.619m	top-of-structure

Back to top



181N Cable Float Barriers

Attachment 5

Visual Inspection of 181N Cable Float Barrier Areas (3 pages)

175167

^WCH Document Control

From: McCurley, Clay D
Sent: Tuesday, March 25, 2014 3:50 PM
To: ^WCH Document Control
Subject: Visual Inspection of 181-N Cable Float Barrier Areas

Attachments: Visual Inspection Photos.doc

Folks. Please print the attachment (in color) and chron with this email per the subject. Let me know which number has been assigned.

Thanks. Clay

From: McCurley, Clay D
Sent: Tuesday, March 25, 2014 2:39 PM
To: Allen, Mark E
Cc: Douglas, L M (Michael)
Subject: Visual Inspection of 181-N Cable Float Barriers Area

Mark. In compliance with the *Removal Action Work Plan for River Corridor General Decommissioning Activities* (DOE/RL-2010-34, Rev. 2), Mike Douglas performed visual inspections of the areas from where the cable float barriers were removed on March 11, 2014. He transmitted his observations and photographs to me stating no stains or anomalies were observed, with the exception of the south anchor block where the soil was darkened from localized dust suppression water used during removal. I placed his photographs in the attached Word file. Contact me if you have any questions. Clay

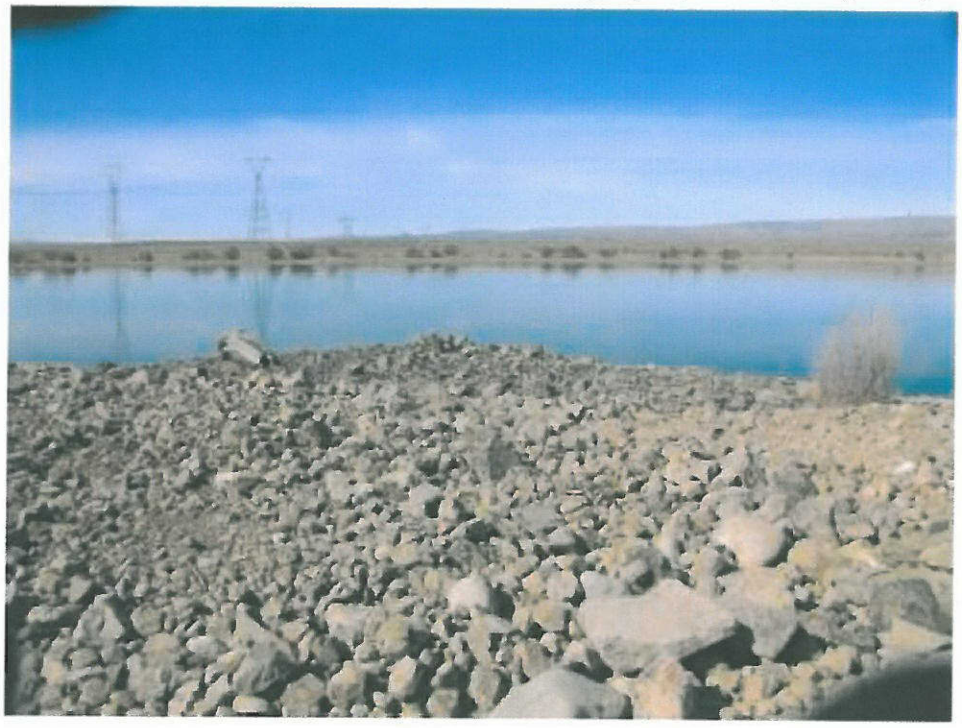
Visual Inspection Photos.doc (...

Visual Inspection Photographs of 181-N Cable Float Barriers

March 11, 2014

Photo 1. Location of former southern anchor block (facing west).

Photo 2. Southern anchor block area after rip rap replaced (facing west).



Visual Inspection Photographs of 181-N Cable Float Barriers

March 11, 2014

Photo 3. Location of former northern anchor block (facing northwest).

Photo 4. Northern anchor block area after rip rap replaced (facing northwest).